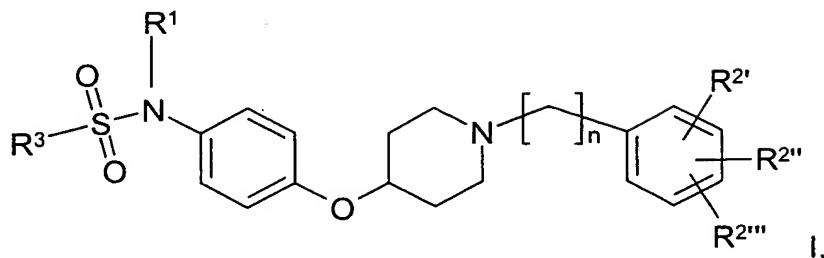


Patent Claims

1. Compounds of the general formula I

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in which

R¹ is H or A,

R^{2'}, R^{2''}, R^{2'''} are each, independently of one another, H, A, OH, OCH₃, OCF₃, Hal, CN, COOR¹, CONR¹ or NO₂,

R³ is A, Ar or A-Ar,

R⁴ is H or A,

A is unbranched or branched alkyl having 1-10 carbon atoms, in which one or two CH₂ groups may be replaced by O or S atoms and/or by -CH=CH- groups and/or 1-7 H atoms may also be replaced by F,

20

Ar is phenyl, naphthyl or biphenyl, each of which is unsubstituted or mono-, di- or trisubstituted by Hal, A, OR⁴, N(R⁴)₂, NO₂, CN, COOR⁴, CON(R⁴)₂, NR⁴COA, NR⁴CON(R⁴)₂, NR⁴SO₂A, COR⁴, SO₂N(R⁴)₂ or SO₂A,

A-Ar is arylalkyl, where A and Ar have one of the above-mentioned meanings,

Hal is F, Cl, Br or I, and

n is 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 or 10,

and solvates, stereoisomers and pharmaceutically usable derivatives, thereof, including mixtures thereof in all ratios.

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2. Compounds according to Claim 1, in which

R¹ is hydrogen,

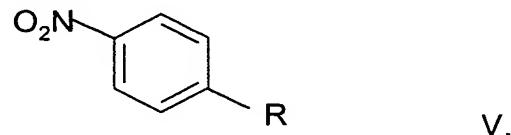
and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

- 5 3. Compounds according to Claim 1 or 2, in which
R^{2'}, R^{2''}, R^{2'''} are hydrogen,
and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.
- 10 4. Compounds according to one or more of Claims 1-3, in which
R³ is n-propyl, i-propyl, n-butyl, 2,2,2-trifluoroethyl, phenyl, benzyl or 2-nitrophenylmethyl,
and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.
- 15 5. Compounds according to one or more of Claims 1-4, in which
n is 1,
and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.
- 20 6. Compounds according to Claim 1 selected from the group consisting of
N-[4-(1-benzylpiperidin-4-yloxy)phenyl]-C-phenylmethanesulfonamide,
N-[4-(1-benzylpiperidin-4-yloxy)phenyl]-C-[2-nitrophenyl]methane-sulfonamide,
N-[4-(1-benzylpiperidin-4-yloxy)phenyl]benzenesulfonamide,
N-[4-(1-benzylpiperidin-4-yloxy)phenyl]- 2-propanesulfonamide,
N-[4-(1-benzylpiperidin-4-yloxy)phenyl]-1-butanesulfonamide,
25 N-[4-(1-benzylpiperidin-4-yloxy)phenyl]-1-propanesulfonamide,
N-[4-(1-benzylpiperidin-4-yloxy)phenyl]-1-2,2,2-trifluoroethanesulfonamide,
30 N-[4-(1-benzylpiperidin-4-yloxy)phenyl]-1-2,2,2-trifluoroethanesulfon-

and solvates, stereoisomers and pharmaceutically usable derivatives thereof, including mixtures thereof in all ratios.

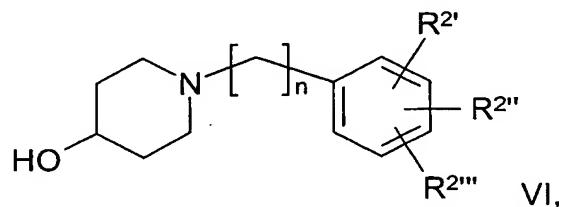
7. Process for the preparation of compounds of the formula I according
5 to Claims 1-6 and pharmaceutically usable derivatives, solvates and stereoisomers thereof, characterised in that
a) a compound of the formula V

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in which R is a nucleophilic leaving group usually employed for nucleophilic substitutions on aromatic compounds, is reacted with a compound of the formula VI

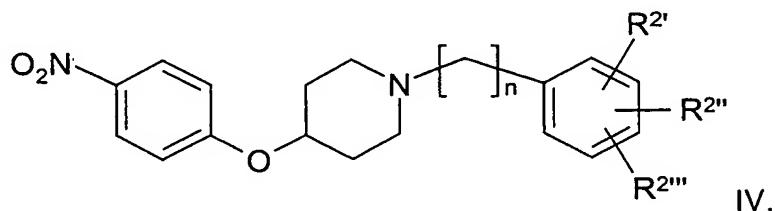
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in which R^{2'}, R^{2''}, R^{2'''} and n are as defined in Claim 1, giving a com-
pound of the formula IV

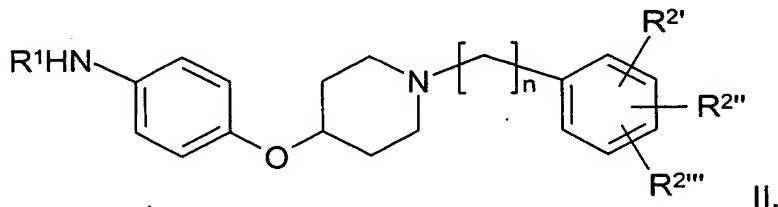
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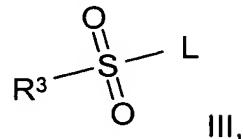
- b) the resultant phenoxy-piperidine of the formula IV is converted by hydrogenation and optionally alkylation into a compound of the formula II

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in which R¹ is as defined in Claim 1, which is then

c) reacted further with a compound of the formula III



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in which R3 is as defined in Claim 1, and L is a nucleophilic leaving group known per se, giving a compound of the formula I, and optionally a protecting group is subsequently cleaved off, and/or a base or acid of the formula I is converted into one of its salts.

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8. Compounds of the formula I and pharmaceutically usable derivatives, solvates and stereoisomers thereof according to one or more of Claims 1 to 6 as effectors of the nicotinic acetylcholine receptor.

- 15 9. Compounds of the formula I and pharmaceutically usable derivatives, solvates and stereoisomers thereof according to one or more of Claims 1 to 6 as effectors of the muscarinic acetylcholine receptor.

- 20 10. Compounds of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, according to one or more of Claims 1 to 6 as medicaments.

- 25 11. Medicaments comprising at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, according to one or more of Claims 1 to 6, and optionally excipients and/or adjuvants.

- 30 12. Medicaments comprising at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereo-

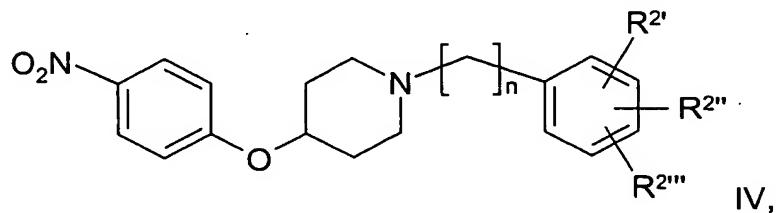
isomers thereof, including mixtures thereof in all ratios, according to one or more of Claims 1 to 6, and at least one further medicament active ingredient.

- 5 13. Use of compounds according to one or more of Claims 1 to 6 and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, for the preparation of a medicament for the prophylaxis or treatment of diseases in which the binding of one or more active ingredients present in the said medicament to nicotinic and/or muscarinic acetylcholine receptors leads to an improvement in the clinical picture.
- 10
14. Use of compounds according to one or more of Claims 1 to 6 and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, for the preparation of a medicament for the prophylaxis or treatment of schizophrenia, depression, anxiety states, dementia, Alzheimer's disease, Lewy bodies dementia, neurodegenerative diseases, Parkinson's disease, Huntington's disease, Tourette's syndrome, learning and memory impairments, age-related memory impairment, amelioration of withdrawal symptoms in nicotine dependence, strokes or brain damage by toxic compounds.
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15. Pharmaceutical composition, characterised by a content of at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios, according to one or more of Claims 1 to 6.
16. Process for the preparation of pharmaceutical compositions according to Claim 15, characterised in that at least one compound of the formula I and/or pharmaceutically usable derivatives, solvates and stereoisomers thereof, including mixtures thereof in all ratios,

according to one or more of Claims 1 to 6 is converted into a suitable dosage form together with at least one solid, liquid or semi-liquid excipient or adjuvant.

- 5 17. Set (kit) consisting of separate packs of
 (a) an effective amount of a compound of the formula I according
 to one or more of Claims 1 to 6 and/or pharmaceutically usable deri-
 vatives, solvates and stereoisomers thereof, including mixtures
 thereof in all ratios,
10 and
 (b) an effective amount of a further medicament active ingredient.
- 15 18. Use of compounds of the formula I and/or pharmaceutically usable
 derivatives, solvates and stereoisomers thereof, including mixtures
 thereof in all ratios, according to one or more of Claims 1 to 6,
 for the preparation of a medicament for the prophylaxis or treatment
 of schizophrenia, depression, anxiety states, dementia, Alzheimer's
 disease, Lewy bodies dementia, neurodegenerative diseases, Parkin-
 son's disease, Huntington's disease, Tourette's syndrome, learning
20 and memory impairments, age-related memory impairment, ameliora-
 tion of withdrawal symptoms in nicotine dependence, strokes or brain
 damage by toxic compounds,
 in combination with at least one further medicament active ingredient.

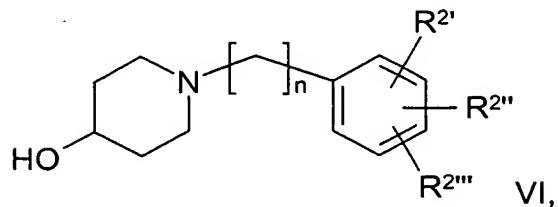
- 25 19. Intermediate compounds of the formula IV



- 30 in which $R^{2'}$, $R^{2''}$, $R^{2'''}$ and n are as defined in Claim 1,
 and salts thereof.

20. Intermediate compounds of the formula VI

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in which $R^{2'}, R^{2''}, R^{2'''}$ and n are as defined in Claim 1,
and salts thereof.

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